

**Abstract**

A method for repairing a damaged myocardium in a mammal, comprising:

- a) providing a three-dimensional porous polysaccharide matrix;
- 5 b) introducing mammalian cells into said matrix;
- c) growing said cells in said matrix *in vitro*, until a tissue-engineered biograft is formed, comprising a contracting tissue; and
- d) transplanting the tissue-engineered biograft onto the myocardial tissue or myocardial scar tissue of said mammal, optionally previously removing scar
- 10 or dead tissue from the site of implantation.

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